

1 WHAT IS CLAIMED IS:

1 1. A method of modulating transcription in a plant, the method  
2 comprising introducing into the plant a recombinant expression cassette comprising a  
3 promoter sequence operably linked to a heterologous polynucleotide sequence encoding a  
4 MYB polypeptide.

1 2. The method of claim 1, wherein the polynucleotide is at least about  
2 30 nucleotides in length.

1 3. The method of claim 1, wherein the polynucleotide is as shown in  
2 SEQ ID NO:1.

1 4. The method of claim 1, wherein the polynucleotide is a shown in  
2 SEQ ID NO: 3.

1 5. The method of claim 1, wherein the polynucleotide encodes a  
2 MYB polypeptide as shown in SEQ ID NO: 2.

1 6. The method of claim 1, wherein the polynucleotide encodes a  
2 MYB polypeptide as shown in SEQ ID NO: 4.

1 7. The method of claim 1, wherein the plant is a cotton plant.

1 8. The method of claim 7, wherein the promoter directs expression of  
2 the polynucleotide sequence in cotton fibers.

1 9. The method of claim 1, wherein the modulation of transcription  
2 results in alteration of root hairs.

1 10. The method of claim 9, wherein the promoter sequence directs  
2 expression in roots.

1 11. A recombinant expression cassette comprising a promoter  
2 sequence operably-linked to a heterologous polynucleotide sequence encoding a MYB  
3 polypeptide.

1 12 The expression cassette of claim 9, wherein the polynucleotide is at  
2 least about 30 nucleotides in length.

1 13. The expression cassette of claim 11, wherein the polynucleotide is  
2 as shown in SEQ ID NO:1.

1 14. The expression cassette of claim 11, wherein the polynucleotide is  
2 a shown in SEQ ID NO: 3.

1 15. The expression cassette of claim 11, wherein the polynucleotide  
2 encodes a MYB polypeptide as shown in SEQ ID NO: 2.

1 16. The expression cassette of claim 11, wherein the polynucleotide  
2 encodes a MYB polypeptide as shown in SEQ ID NO: 4

1 17. The expression cassette of claim 11, wherein the promoter directs  
2 expression of the polynucleotide sequence in cotton fibers.

1 18. The expression cassette of claim 11, wherein the promoter  
2 sequence directs expression in roots.

1 19. A plant comprising the expression cassette of claim 11.

1 20. The plant of claim 19, which is a cotton plant.

1 21. An isolated nucleic acid molecule comprising a sequence at least  
2 about 70% identical to SEQ ID NO: 5.

1 22. The isolated nucleic acid molecule of claim 21, which comprises a  
2 sequence as shown in SEQ ID NO: 5.

1 23. An isolated nucleic acid molecule which encodes a polypeptide as  
2 shown in SEQ ID NO: 6.

1 24. An isolated nucleic acid molecule comprising a sequence at least  
2 about 70% identical to SEQ ID NO: 7.

1                    25.      The isolated nucleic acid molecule of claim 24, which comprises a  
2      sequence as shown in SEQ ID NO: 7.

1                    ~~26.~~    An isolated nucleic acid molecule which encodes a polypeptide as  
2    shown in SEQ ID NO: 8.

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